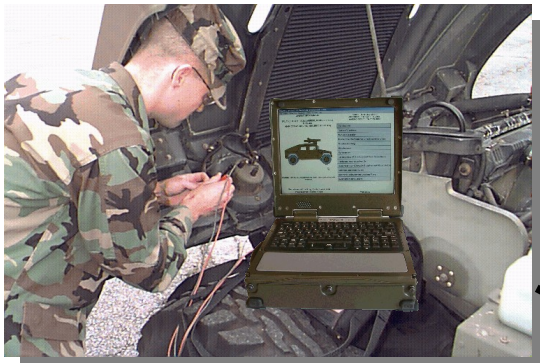
Maintenance Support Device (MSD)

The Army's IFTE Standard Maintenance and Diagnostic Device

Overview

Three issues

- ✓Funding
- ✓Maintenance Support
- ✓Training



Common Bottom-Line: Readiness

BLUF

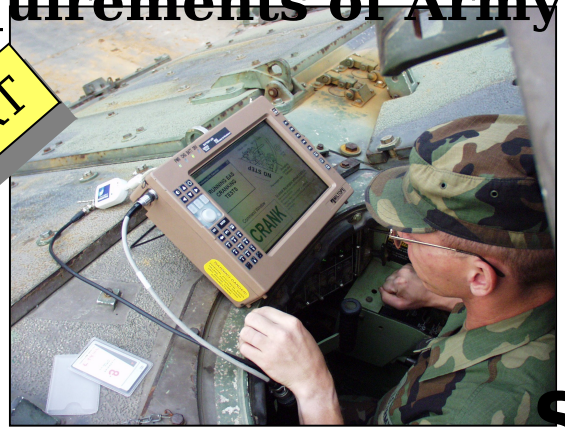
- Funding for MSD too low
  - Zeroing of 2005 – 2006 funding catastrophic
- Battlefield Diagnostics takes a step backwards
- In-country FSR's essential to reduce MSD repair Turn-Around-Time
  - Theater MSD ORE authorization is key
- al

Fixing What Is Broken Depends Not Only on Fast, Accurate Diagnostics, but on Getting the Right Training, the Right Services and the Right Repair Parts to the Right Place at the Right Time

Maintenance Support Device

Rugged, compact, lightweight man-portable general purpose automatic tester used to verify the operational status of systems and isolate faults – support testing requirements of Army Current to Objective Force weapon systems

SPORT



MSD

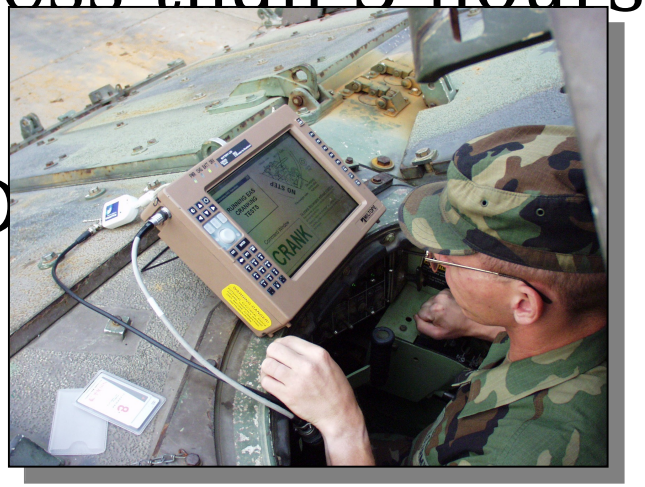
Supporting:

Abrams, AME, Apache, ASV, ATACMS, Avenger, Blackhawk, Bradley, Chinook, Comanche, EOD, Firefinder, FMTV, Fox, GCSS-A, Hellfire, HEMTT, Hercules, HET, HIMARS, HMMWV, Hunter, Javelin, JTAGS, KEM, Kiowa, LOSAT, LRAS3, Maintenance Truck, MLRS, M915/16/17, Paladin, Patriot, PLS, Sentinel, Shadow, SHORAD, Stryker, THAAD, TQG, Wolverine

SPORT

(Soldier's Portable On-System Repair Tool)

- First generation on-system repair tool
- Fielding started in 1997
- 266 GHz processor – 4-20 GB Hard Drive
- Limited battery life – less than 3 hours
- No DVD capability
- Not as rugged as MSD



MSD

- Fielding started in 2002
- Pentium M® processor – Centrino® chip
- Two internal batteries – 8 hours of operation
- DVD/CD/RW, Floppy
- 40 GB Removable HD
- Wireless capability
- 64 MB ATI Graphics
- Ultra reliable

What MSD does for the ARMY

- Utilizes IETM's based maintenance
  - *No more multimeters/paper manu*
- Electronically troubleshoots system
- Provides accurate diagnosis
  - Lower NEOF rates
- Shortens Repair Cycle Time (RCT)
- Greatly reduces O&S costs
  - Embedded RPSL eliminates errors
- Enables Performance Based Logistics

Stryker, Abrams, Apache, Blackhawk, Bradley, Chinook, FMTV, HTV, HIMARS, Kiowa, MLRS, Mortars, Patriot, Shadow (TUAV), THAAD, Patriot

Improved Readiness

Bottom Line –

Takes the Guesswork out of Troubleshooting

Technological Advantage

With MSD

LRU Fails

CRT/MST Diagnoses Using MSD/ICE/IETM

LRU Removed

Open job Order

LRU Available?

Yes

No

LRU Replaced

LRU Requisitioned

CRT/MST Verifies Repair

Much Slower and Less Accurate Parts Requisition

Significantly Increased Readiness.. (25% Reduction in Maintenance Task Time)

Without MSD

LRU Fails

CRT/MST Diagnoses Using paper manual & stand alone TMDE

X X X

LRU Removed

Manually input job Order info.

X

> 12% Error Rate

LRU Available?

Yes

No

LRU Replaced

LRU manually Requisitioned

X

CRT/MST Verifies Repair

> 12% Error Rate

No

Current Fielding

Some Combat units without SPORT/MSD

UNIT	On-Hand	Required	%
3rd Infantry Division	348	1,052	33%
4th Infantry Division	184	962	19%
82nd Airborne Division	69	347	20%
101st Airborne Division	109	564	19%
3rd Armored Cavalry Regiment	31	303	10%
1st Armored Division	33	759	4%
10th Mountain Division	136	261	52%
2nd Armored Cavalry Regiment	7	207	3%
V Corps	0	38	0%
173rd Airborne Brigade	* ~90% SPORT	26	4%

On average~20% fielded to requirement

Funding situation

Funding Picture

$M	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Budget Prior to POM Build 3.1	41.6	17.8	20.3	46.3	49.0	51.3	53.1
Budget After POM	***41.***	***17.8*** *1.0 Cong. plus-up*	***0***	***0***			

Add'l $3.2M cut in Dec

No MSD fielding in FY05/06 to support SBCT, deploying units, USF, ADRS and 20 weapon systems

UFR through 09 is >17,000 systems (>$300M) to meet all requireme

What Does Funding Cut Do?

- Maintenance steps back to 1980's procedures
  - Revert back to analog TMDE & manual troubleshooting
  - IETM's become ETM's only
  - Increased fault isolation and Repair Cycle Time
  - Higher parts costs driven by higher NEOF- >12% error rate
  - Increased burden on individual repairman
- Fielded SPORT (~$8K) remain beyond intended life (5yrs)
  - Already experiencing obsolescence issues
- Proliferation of non-standard testers unique to platforms
- Seriously Affects OR rates

Mech. Div. has over 3500 items of just rolling stock

SPORT
Soldiers Portable On-system Repair Tool

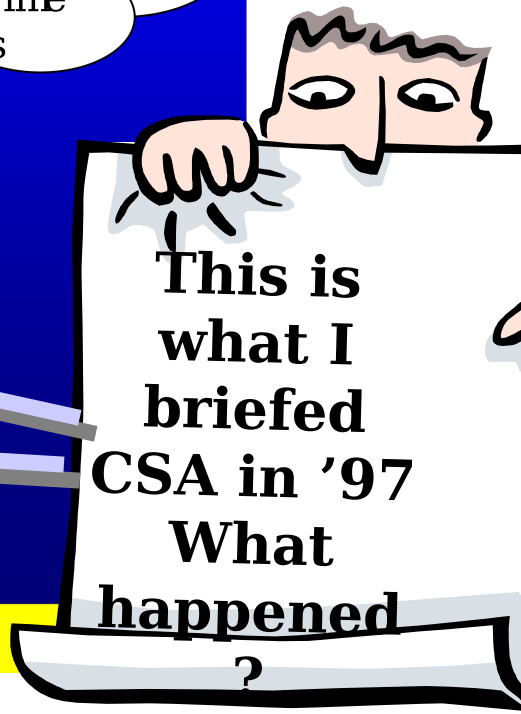
Modernizes Obsolete Tester, Enhances Diagnostics Support, and Provides Platform for IETM, ICE ...

Replaces: STE-ICE

What it Does:
- Troubleshoots On System
- Reduces No Evidence of Failures and Test Time
- Enables Diagnostics

Current POM:
Hardware Fully Funded

Accelerated Program:
- Develop and Field SOFTWARE (IETMs and TPS's) to Match SPORT Fielding Schedule



User Friendly Diagnostics Systems

Actions to Affect 05/06 Funding

House

- Terry Everett (R-AL) HASC
- Roger Wicker (R-MS) HASC

Military

- G4 taking fight to G8 & G3

Senate

- Jeff Sessions (R-AL) SASC
- Richard Shelby (R-AL) SAC
- Thad Cochran (R-MS) SAC
- Ted Stevens (R-AK) SAC
- Trent Lott (R-MS)

We need help:
Must get operational commanders (Div Cdrs) to express their need and support

Maintenance Support

What we have in the AOR

...ss Issues

- Widely dispersed units
- Units at 20% fill of SPORT/MSD (only ~10% MSD)
- No provision for in-theater repair of SPORT/MSD
- Repair facility thousands of miles away – Alabama
- Inadequate retrograde system
- Some units have neither SPORT or MSD

SPORT/MSD Support Needed "In-...y",

Some units continue to deploy without SPORT/MS...

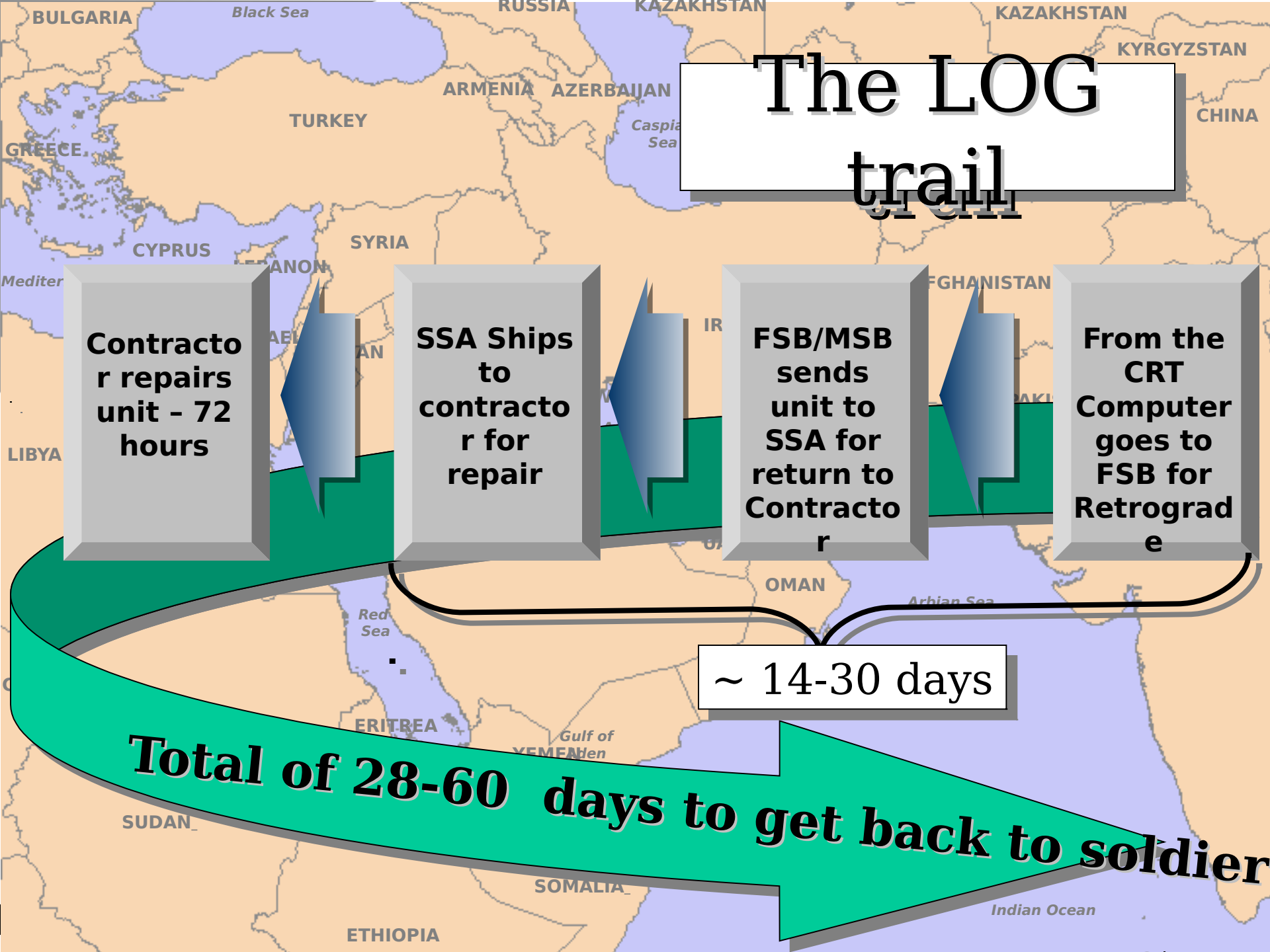
Current Situation

PM Tells us that..Field says…

- ✓914 computers are deployed in OEF/OIF – only ~10% are the MSD
- ✓ fielding at less than required quantities
- ✓Required number of MSD is 4,519
- ✓One way transit time currently 14-30 days
- ✓Proliferation of non-standard

- ✓…"MSD proven & valuable diagnostic tool"
- ✓"…new systems fielded but no SPORT or MSD to support"
- ✓Technical support not available in Iraq
- ✓Can't use stateside
- ✓Return logistics not responsive

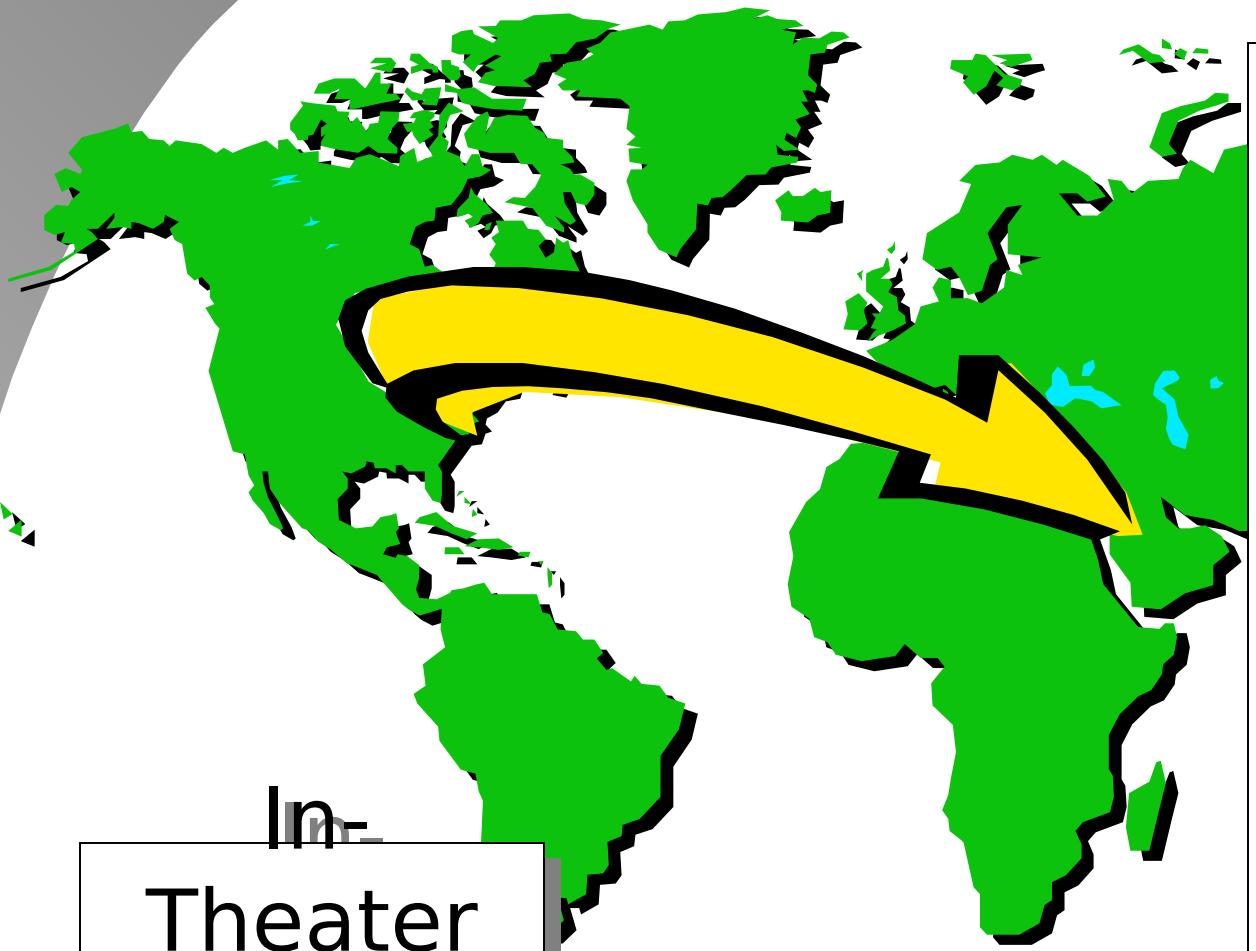
"…in the States, we ship them back to th but over here – nobody knows" – SFC in Ira


The LOG trail
Contractor repairs unit – 72 hours
SSA Ships to contractor for repair
FSB/MSB sends unit to SSA for return to Contractor
From the CRT Computer goes to FSB for Retrograde
~ 14-30 days
Total of 28-60 days to get back to soldier
BULGARIA
Black Sea
RUSSIA
KAZAKHSTAN
KYRGYZSTAN
CHINA
ARMENIA
AZERBAIJAN
TURKEY
GREECE
CYPRUS
SYRIA
LIBYA
OMAN
Red Sea
ERITREA
SUDAN
SOMALIA
ETHIOPIA
Indian Ocean

How could it be better?

- ***Make it simple for the soldier***
  - Central MSD repair point in theater
  - Direct exchange – turn-around time is reduced
  - In-theater spares
  - Help Desk in theater
  - Field more MSD's
- ***Make it easier for the logisticians***
  - Shorten the retrograde log trail
  - Authorize ORF in theater
- ***Make it better for readiness***
  - Restore funding levels
  - Replace SPORT in AOR

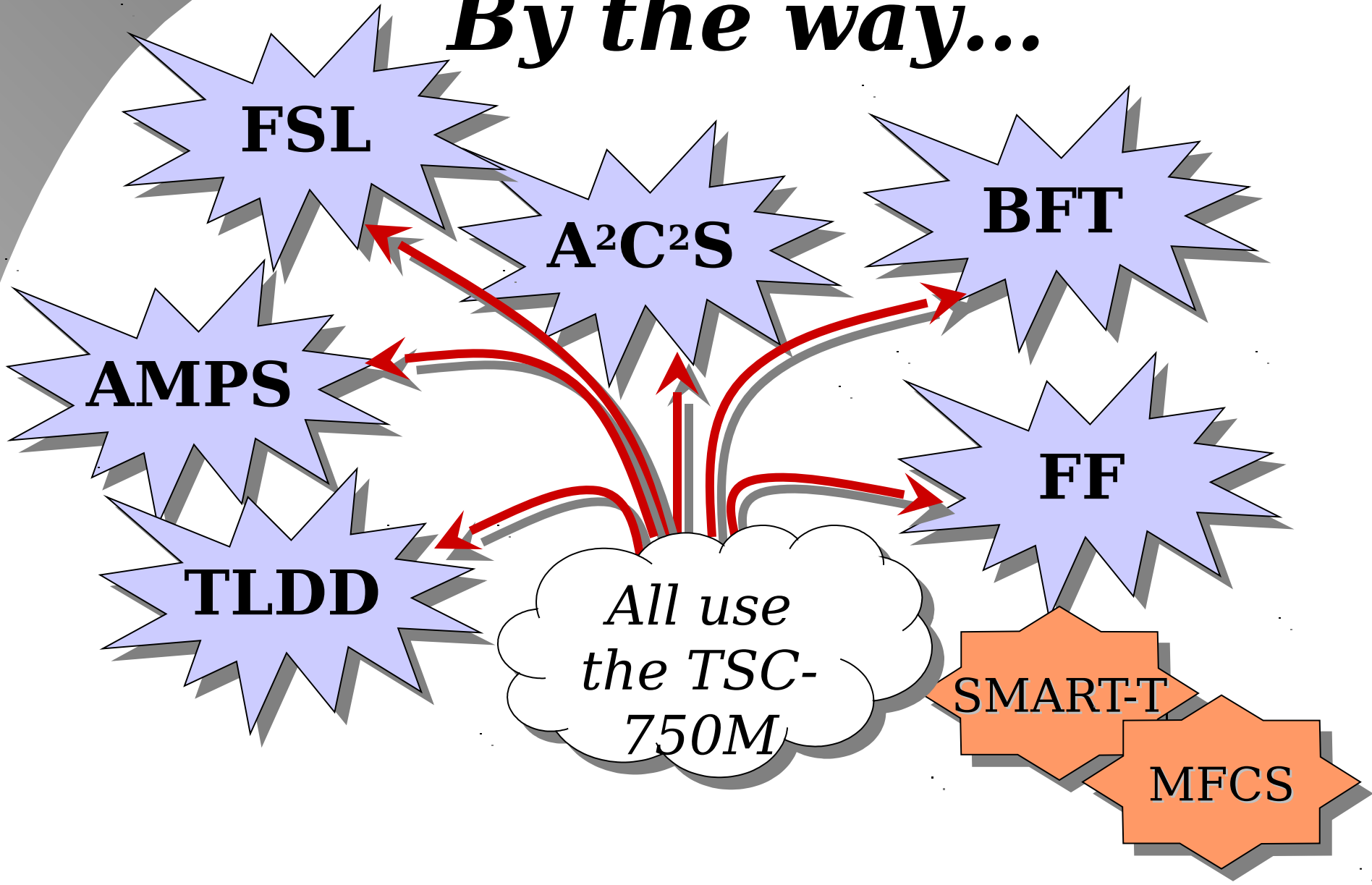
In-country MSD repair only part of the solution to improve readiness



In-Theater FSR Support for MSD

- Technical team capable of factory level repairs
- Use existing trans to/from AOR
- ORF of ~ 15-20 MSD's for fast turn-around
- Team with existing support facilities
- About 60 days to be fully functional
- Can perform on-

By the way…



Value of in-country FSR support

- 1-2 day turn-around using MSD ORF - ***vs. 28-60***
- Higher usage of MSD's =
  - Accurate Diagnosis
  - Shorter Repair Cycle Time,
  - Lower O&S cost
- Hotline tech assistance more responsive – *no time zone to deal with*
- On-site training

Trainin
g

Training

- Training is inconsistent and non-standard
  - NET is provided to Units when possible
  - When fielded as ASIOE, training provided by Weapon System PM
  - Units have deployed without training
  - Training not available in theater
  - Some units not using MSD due to untrained NCOs
  - Some Fielding will take place “in country”

Conclusion

- MSD is a combat enabler
- Funding levels must be increased
- Higher MSD/SPORT availability is a must – achieved with:
  - In-country support
  - Increased MSD density
- Training need in-theater